

SOIL CONSERVATION SERVICE

STANDARD AND SPECIFICATIONS

RECREATION AREA IMPROVEMENT

STANDARD

Definition

Establishing grasses, legumes, vines, shrubs, trees, or other plants to selectively reducing stand density and trimming woody plants to improve an area for recreation.

Purpose

To increase the attractiveness and usefulness of recreation areas, and to protect the soil and plant resources.

Conditions Where Practice Applies

On any area planned for recreation use

SPECIFICATIONS

I. Establishing Grasses and/or Legumes

A. Install needed water control measures and designed grades.

B. Prepare a smooth, firm seedbed.

C. Select seeding mixture adaptable to the type and intensity of recreation planned, soil condition and degree of shading. Follow the recommendations for lime, fertilizer, seed mixture, establishment and management contained in the Pennsylvania Extension Service Special Circulars 167 Liming Turfgrass Areas, 168 Turfgrass Seed Mixtures, and 198 Turfgrass Maintenance Fertilization.

D. Time of seeding -April 1 to June 1 or August 15 to October
Use summer seeding only if needed water can be applied.

E. Follow Standard and Specification for Mulching (484).

II. Establishing Trees, Shrubs, or Vines

A. Select adapted species that will meet the needs for the intended use and site conditions. Generally, native rather than exotic species are best adapted to the local area. Species should be selected

that provide aesthetic, landscaping and wildlife values. Thorny species may be used where traffic control is desired. See "Guide for Recreation and Urban Planting in Pennsylvania" and SCS Recreation Ready Reference, Section 7, as aids in the selection of species. A temporary ground cover may be needed during establishment. Follow recommendation in the Critical Area Planting (442) Standard and Specification or the current Agronomy Guide.

B. Time of Planting

1. Deciduous -Plant or transplant deciduous woody plants after the ground thaws but before May 15.
2. Evergreens -Plant or transplant evergreen woody plants in early spring after ground thaws.
3. Large Plants -Transplant in spring or late summer after summer growth has been completed or during dormancy.

C. Site Preparation

1. Modify soil drainage, if necessary, for the planned species.
 2. Preparation of the site will depend upon the type of planting, age, and size of plants and condition or previous use of the area. Use one or more of the following methods for site preparation, as needed:
 - a. Till site with suitable equipment several weeks prior to planting. Plow ridges through wet spots and plant on ridge. Harrow or disk the site just prior to planting.
 - b. Scalp sod with a shallow contour furrow or with a mattock. Make mattock scalp at least 1 foot square for each tree or shrub. Place scalp bottom side up on downhill side.
 - c. Dig pits for ball and burlap transplanting. Use good topsoil for backfilling around transplants. When backfilling soils are fine textured, they can be improved by mixing 1/3 topsoil, 1/3 sand, and 1/3 equal parts of peat moss or other organic material with subsoil. When soils are coarse textured, increase the percent of organic material and reduce sand.
 - d. A 4-inch layer of mulch will be applied in at least a 3-foot diameter circle around each plant.
 3. Lime and fertilize to soil test or apply fertilizer at the rate of 40 lbs. of N, P2O5 and P 0 per acre (1 ounce 10-10-10 fertilizer to each plant), and 2 tons lime per acre. Incorporate lime and fertilizer into top 4 inches of surface soil by disking or other suitable means.

D. Spacing -Plant all trees and shrubs well back from buildings, roads, driveways, walks, courts and flower beds to leave room for expected crown area. The following will serve for guides for planning:

1. Single Plants

Mature canopy larger than 30 feet, 50-60 feet apart.
Mature canopy less than 30 feet, 20-30 feet apart.
Columnar species, 6-8 feet apart.
Mature canopy less than 18", two feet apart.

2. Hedges -Refer to Hedgerow Planting (422) Standard and Specification.

3. Clump or Group Planting - Space according to expected size of mature plants. Taller species to the center or back of plantings.

E. Planting - Plant under optimum soil and weather conditions. Handling and transplanting large plants will require special equipment and techniques. The method of planting will depend upon the size of the stock and method of lifting and moving the stock.

1. Bare root transplanting

- a. As soon as seedlings are received, the crates or bundles should be opened to prevent heating. Keep roots moist and store in a cool place until planted.

- b. Seedlings that cannot be planted within 10 to 15 days of receipt should be heeled-in as soon as possible in a moist, shady location. Containerized seedlings will hold over longer but must be kept moist.

- c. Keep roots moist during planting.

- d. Information Sheet PA-23, How to Plant Trees and Shrubs, provides additional information on care of seedlings.

- e. Replace dead or missing plants after first year.

2. Ball and burlap transplanting -Use this method for larger trees and shrubs. Planting of stock too large to manage by hand should be transplanted by trained and equipped nurserymen.

- a. Prepare a pit large enough to accommodate root ball.

This should be about six inches deeper and at least one foot larger in diameter than the diameter of the ball.

- b. Fill bottom of pit with about six inches of topsoil.
- c. Place root ball in pit and adjust crown to original ground level.
- d. Remove burlap and fill. and compact until pit is half full.
- e. Water thoroughly to complete settling of soil.
- f. Complete filling around ball leaving a slight depression for additional watering and mulch.
- g. Place four inches of mulch around plant in at least a 3-foot diameter circle around each plant.

3. Prune at planting time

- a. Prune deciduous trees moderately to balance top and root system. Do not prune leader.
- b. Do not prune evergreen trees except to remove damaged branches.
- c. Prune shrubs to remove some of the older canes and to head back some main branches.

4. Bracing

- a. Small trees (1"-3" inch dbh) - use at least one stake set out from tree and fastened to tree with wire and a loop of rubber hose.
- b. Larger trees -use three heavy stakes and 12-guage wire fastened to tree through a loop of rubber hose.

5. Protection

- a. To protect from rodents or mechanical injury, the trunks of deciduous trees may be wrapped with horticultural crepe paper or similar material. Start above the second limb and wrap downward overlapping each turn halfway.
- b. Use fencing to eliminate grazing.

6. Maintenance

- a. Control competing vegetation.
- b. Prune and thin, as needed.

c. Replant to fill gaps.

d. Heavy fertilization of tree and shrub plantings is generally not needed or desirable. Without tests, safe rates are:

Shrub areas -2 to 3 lbs. of 10-10-10 or similar analysis per 100 square feet of area.

Trees -3 to 5 lbs. of 10-10-10 or similar analysis per inch of tree diameter. Apply 1/10 lb. per hole in holes 15 inches deep and 18 inches apart under the canopy drip line.

III. Thinning and Pruning Woody Plants to Improve Recreation

A. Thinning

1. Remove dead, diseased, dying, severely damaged, poorly anchored, interfering, hazardous or objectionable trees, branches or shrubs.

2. Give preference to flowering species of shrubs, and trees, den trees, nut or fruit producers, and unique or unusual species.

3. Give preference to trees which do not "weep" resins and insect juices. Some weeping species are American elm, red maple, yellow-poplar, honey locust, and white pine.

4. Thin according to the formula $D \times 3$ (the average diameter of the overstory trees times three, answer in feet). Crown Cover after thinning should be approximately 50 percent. To release shrubs and understory trees, use the diameter of the nearest overstory tree as a base. Twelve-inch trees would be spaced approximately 36 feet apart. In intensely used recreational areas, the crown canopy should be reduced to 20-40 percent closure to stimulate denser ground cover. Establish an adaptable grass cover to protect the soil from erosion and compaction.

5. Any structural weakness, decayed trunk or branches or split crotches and branches should be eliminated.

B. Pruning

1. Prune during the dormant season for hardwoods.

2. Remove limbs and limb stubs to a height of eight feet in human use areas, such as footpaths and trails. On bridle path, and on roads remove limbs to a height of 12 feet.

3. Do not remove more than one-third of the live crown of a tree in one pruning operation.

4. Make all cuts nearly flush to the parent stem so that healing can start.

5. Undercut all limbs one inch in diameter or over to prevent splitting.

6. Treat all cuts and wounds over one inch in diameter with an approved tree wound dressing.

7. Disinfect tools with alcohol after each cut and between trees where there is known danger of transmitting the disease on tools.

IV. Natural Areas:

A. Leave areas of vegetation in their natural form.

B. Make modifications of the vegetation when it will meet the landuser's objective to improve access or enhance the aesthetic values.

C. Whenever possible, minimize the area to be disturbed by using hand tools.